

A NEW TREE-FROG (GENUS *HYLA*) FROM QUEENSLAND.

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*Synopsis.*

A new species of the genus *Hyla* is described from south-eastern Queensland, bringing the total number of known forms of Australian hylids to about 45.

Thanks to the courtesy of Dr. J. C. Pearson, Lecturer in Helminthology in the University of Queensland, I have received three specimens of a tree-frog, which appears to be new, and which I accordingly describe as *Hyla pearsoni*, sp. nov.

*HYLA PEARSONI*, sp. nov.

*Diagnosis.*—Most closely resembles *Hyla gracilentia*, from which it may be distinguished by the following character differences: smaller and much more slender, width of body to total length of head and body, *pearsoni* 24%, *gracilentia* 38%; upper arm coloured, *gracilentia* white; forearm normal, *gracilentia* with large granular plaque-like shield; much smaller finger discs; less webbing between fingers 38%, *gracilentia* 68%; skin smooth, *gracilentia* uniformly and finely granulate and covered with minute pores; dorsum with black flecks, *gracilentia* uniform; thighs brown, *gracilentia* thighs white with purple. These are perhaps the more obvious differences, but the two species differ in a considerable number of other characters.

*Description of the Holotype*, No. A.C.7043: a male, not quite adult; collected on a branch of Cedar Creek, east of Mt. Glorious, about 20 miles north-west of Brisbane, Queensland, by J. C. Pearson, 8.ix.1958; c. 2,000 ft.

Habitus quite slender, triangular, tapering from a broad head to a narrow waist, maximum width of body 7 mm., 24% of total length of head and body (29 mm.), waist 4 mm.; a rather small frog, although only males have been seen and these are almost certainly not quite adult; head subtriangular, a trifle broader than long (10 × 9 mm.); snout short (4 mm.), equal to diameter of eye, sharply truncate when seen from above, almost vertical in profile, extending hardly at all beyond lower lip; canthus rostralis fairly straight and slightly rounded; lores rather convex near lower jaw and mildly concave against canthus rostralis; interorbital width about 1.4 times that of an upper eyelid (3.5 to 2.5 mm.), top of head flat between rather distinct eye bulges; internasal space 2 mm.; diameter of eye distinctly greater than its distance from nostril; tympanum sharply distinct, smooth and almost flush, tilted slightly upward, contained in diameter of eye between two and a half and three times (1.5 to 4 mm.), distance from eye 1 mm.; a sharp, but rather low slightly undulating supratympanic ridge.

Skin of head and body and all exposed dorsal surfaces of limbs practically smooth with a few large scattered warts up to 0.5 mm. in diameter, only about 20 altogether, shared equally over body, head and limbs; there are also a few smaller projections; underside of lower jaw finely granulate with five large warts; belly coarsely granulate with about a dozen quite large warts, a few to 1 mm. across; ventral surfaces of limbs smooth with a very occasional smoothed wart; a small shagreened area under each tympanum; no or only the slightest trace of pectoral fold; anal area granulated with a small flap.

Forelimb inclined to slighthness, moderately long (19 mm.), 61% of length of head and body; upper arm distinctly thinner than lower (but nothing to the extent found in *Hyla gracilentia*); a distinct and wide web in the angle of elbow, tapering to wrist, but not far along upper arm; hand 7.5 mm.; finger discs small, elongated, about 0.5 × 1 mm.,

smaller than tympanum; fingers in ascending order of length, 1, 2, 4, 3; extent of webbing between fingers, 46, 33, 34%, average 38%; no or narrow fringes to fingers; thumb much thickened basally, the second finger also slightly swollen; both the thumb which is opposed and the finger together may be regarded as a unit forming a clasping organ; subarticular tubercles small but fairly distinct; palm shallowly divided.

Hindlimb long and slender, length (45 mm.) 155% of head and body; femur 12 mm., tibia 14 mm., foot 19 mm.; heel reaches to between eye and nostril; toe discs small, about equal to those of fingers, slightly elongated, only about half size of tympanum (0.75–1 to 1.5 mm.); toes in increasing order of length, 1, 2, 3 = 4, 5; extent of webbing between toes, 70, 50, 63, 50%; web does not reach or closely approach any disc; no or extremely narrow fringes to toes; subarticular tubercles small and low, but distinct; sole shallowly divided longitudinally; a small, marginal inner metatarsal tubercle.

Vomerine elevations paired, small, rounded, distinctly separated from each other, and twice more widely from the choanae which they equal in size, each about two-thirds behind line joining posterior borders of choanae; tongue elongated, heart-shaped, shallowly indented posteriorly and grooved dorsally, free behind, rather small, about half width of mouth at angle of jaws; a large opening behind the tongue at each side of the mouth near the angles of the jaw leads into a wide subgular vocal sac.

Dorsal surface of body and other exposed surfaces a light leaden blue, sparingly flecked with black; all ventral surfaces whitish, but a wide margin of lower jaw suffused with darker giving a speckled appearance; posterior surfaces of thighs and to some extent those of all limbs bluish-brown; sides brown speckled with white; a wide, more or less uniform, brown line runs from the snout to the eye and is continued back behind the eye to include the tympanum and ends just behind the forelimb; there is a bar of the same colour under the eye; an obscure thin light line runs above the long brown one, and light spots margin the upper jaw.

*Variation in Paratypes.*—Two paratypes, Nos. A.C.7044–5, locality as holotype, J. C. Pearson, 8.ix.1958, closely resemble the holotype in body proportions and other details. Total lengths 30, 28 mm., maximum body widths 8, 7 mm., waists both 4 mm. A.C.7045 is somewhat smoother and less warty than the other two specimens. The extent of webbing between fingers in both paratypes is barely 33%. Vomerine elevations are much as in the holotype, but nearly entirely behind the choanae in A.C.7044, and only about one-third in A.C.7045. Coloration is fairly uniform, but both paratypes have less black flecking than the holotype.

*Field Notes.*—Pearson has supplied the accompanying notes with his specimens: "It looks superficially like a small *gracilentia*, and its song is a softer version of that of *bicolor*. I've found it frequently along rainforest streams, but not elsewhere. All of the several dozen frogs which I examined for parasites were males. It appears that both sexes live away from streams between rains, that breeding occurs during or soon after periods of rain, and that the females leave the stream immediately after breeding, while the males hang around for several days. Frogs range from uniform pale green above, through blotchy (freckled) to a uniform sandy brown. The call which I associate with them—I have not seen one singing—is a lower, rustier version of *H. bicolor*—which I have seen singing. In life, the tadpoles are jet black, very plump, and without any markings. Results of field observations in stream in rainforest at Mt. Glorious: 2.ii.1958, no adults, eggs or tadpoles found; 7.iii.1958, egg masses on rocks in stream, tadpoles and a few adults, six collected—five males and one immature female; 2.viii.1958, tadpoles and adult males found; 8.ix.1958, egg masses, well developed tadpoles and many males found; 11.xii.1958, egg masses and well developed tadpoles found; 2.ii.1959, egg masses and tadpoles with hind legs, but no adults; 22.iv.1959, egg masses only found. Laboratory observations: Egg masses collected 1.xii.1958 and brought to laboratory. First tadpoles undergoing metamorphosis by 4.ii.1959, that is 54 days later at summer temperatures. However, tadpoles develop faster in the field, as on 5.ii.1959 there were no tadpoles left in the stream where the eggs were collected."

Pearson also mentions an adult caught in Coomera Creek, at the foot of the Lamington Plateau, in October, 1957.

*Remarks.*—This inconspicuous little frog falls within the group of Hylidae, AA, with vomerine elevations and fingers at least one-third webbed as defined by Copland (1957—Proc. Linn. Soc. N.S.W., 82 (1): 9–108). The new species has also been compared with actual specimens or descriptions of all species dealt with in the above paper, but does not appear to have close affinity with any one of them. To complete the key given in the paper mentioned above, the diagnosis of *Hyla pearsoni* should be inserted under *H. gracilentata* on page 11.

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